

Radiation Abating Highly Flexible Multifunctional Polyimide Cryogenic and Thermal Insulation, Phase I

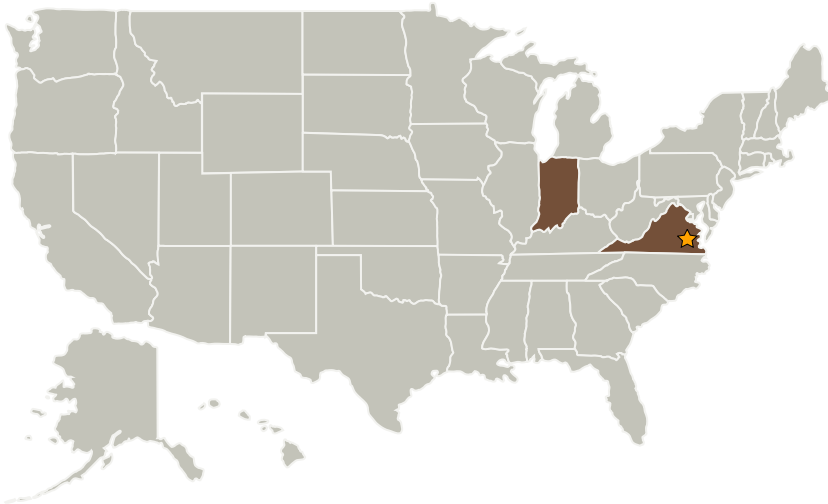
Completed Technology Project (2006 - 2006)



Project Introduction

The development of highly flexible thermal insulation materials with multifunctional properties based in polyimide polymers and designed to provide significant radiation abatement is proposed. These new material forms provide their enhanced properties while ensuring benign behavior in adverse thermal environments ranging from cryogenic to elevated temperatures. In addition, the introduction of radiation abating materials into the polymeric precursor or foam provides a protective element not available in current state-of-the-art insulation materials. The proposal team provides a fundamental understanding of the chemistry and physics of polyimide foams, the test facilities for measurement of structural and mechanical properties and production facilities sufficient to produce materials in volume necessary for prototype tests in NASA applications.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
GFT, LLC	Supporting Organization	Industry	Pennville, Indiana



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Indiana

Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX12 Materials, Structures, Mechanical Systems, and Manufacturing
 - └ TX12.2 Structures
 - └ TX12.2.5 Innovative, Multifunctional Concepts